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# A new species of *Corynesporopsis* from Spain

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Abstract — *Corynesporopsis variabilis* sp. nov., found on plant debris collected in natural areas of Spain, is described and illustrated. It is characterized by an endogenous conidial ontogeny at the reduced internal area of inflated conidiogenous cells and long acropetal chains of variable ellipsoid obclavate sub-oblong cylindrical sub-pyriform to oval irregularly pigmented 1-septate conidia with a septal constriction. A key to *Corynesporopsis* species is also presented.

Key words — systematics, anamorphic fungi

## Introduction

Kirk (1981a) erected the genus *Corynesporopsis* for a single species, *C. quercicola* (Borowska) P.M. Kirk, previously placed in *Corynespora* Güssow. *Corynesporopsis* is characterized by terminal determinate (rarely with enteroblastic percurrent extensions) monotretic conidiogenous cells that produce cylindrical to ellipsoid euseptate catenate conidia that are borne through a slightly depressed and obvious apical pore of the conidiogenous cell.

During a survey of microfungi associated with plant debris collected in natural areas of Spain, a conspicuous fungus with morphological characteristics of *Corynesporopsis* was found. As the fungus shows significant differences from previously described taxa, we propose it as a new species.

## Materials & methods

Individual samples of plant material collected during the survey were placed in paper and plastic bags, taken to the laboratory, and treated following the methods described

in Castañeda-Ruiz (2005) and Castañeda-Ruiz et al. (2010). Mounts were prepared in polyvinyl alcohol-glycerol (8 g in 100 ml of water, plus 5 ml of glycerol) and measurements under 1000× magnification. Micrographs were obtained with a Leitz Dialux 20. The holotype has been deposited in the Centraalbureau voor Schimmelcultures (CBS); other specimens are currently included among collections maintained by the Facultat Medicina de Reus (FMR), Reus, Spain.

## Taxonomy

***Corynesporopsis variabilis*** R.F. Castañeda, Hern.-Restr. & Gené, **sp. nov.**

MycoBank MB 802312 Figs 1, 2

Differs from other *Corynesporopsis* spp. by the variable shape and irregular pigmentation of its conidia.

Type – Spain, Castilla y León, Burgos, San Pedro de Arlanza, near to Monasterio de Arlanza (42°04′N 03°26′W, alt. 925 m), on decaying twig of unidentified plant, 11 November 2010, M. Hernández-Restrepo & J. Gené C10/136 (**Holotype**, CBS-H 20748; **Isotype**, FMR 11560).

Etymology: Latin, *variabilis*, referring to variation of conidial shape.

Colonies on the natural substrate effuse, hairy, dark brown to black. Mycelium immersed; hyphae septate, branched, cylindrical, 1–2 µm diam, smooth-walled, dark brown to brown. Conidiophores mononematous, macronematous, simple, erect, straight or slightly flexuous, cylindrical, 5–10-septate, smooth and thick-walled, 175–350 × 5–6 µm, dark brown below, brown towards the apex. Conidiogenous cells monotretic, terminal, cylindrical, determinate, brown, 12–29 × 3–4 µm, markedly thick-walled around the conidiogenous loci. Conidia variable ellipsoid, obclavate, sub-oblong, cylindrical, sub-pyriform to oval, 1-septate, slightly or strongly constricted and often darker pigmentation at the septum, irregularly pigmented, with dark brown or brown basal cell and pale brown apical cell, sometimes basal cell only slightly darker brown than the apical cell, clearly delimited by an obscure to black band around the septa, smooth-walled, 11–16 × 5–8 µm, dry, forming dark brown to black, acropetal, unbranched chains.

Additional specimen examined – Spain, Aragon, Huesca, Ordesa y Monte Perdido Nacional Park, Ordesa Valley, Arazas River (42°33′53.07″N 0°03′44.99″W, alt. 1048m), on submerged dead wood, 26 March 2011, M. Hernández-Restrepo & J. Capilla (FMR 12057).

Comments – *Corynesporopsis variabilis* slightly resembles *C. indica* and *C. inaequiseptata*. *Corynesporopsis indica* is easily distinguished by its ellipsoid to broadly obovoid (sometimes somewhat biconic) medially 1-septate larger [(14–)17–24(–27) × 8–12(–14) µm] uniformly dark brown to very dark brown conidia with a dark band at the septum (Kirk 1983, Ma et al. 2010); *C. inaequiseptata* differs by its longer (17–25 × 4–5.5 µm) narrowly obclavate asymmetrically 1-septate conidia with brown basal and pale brown apical cells

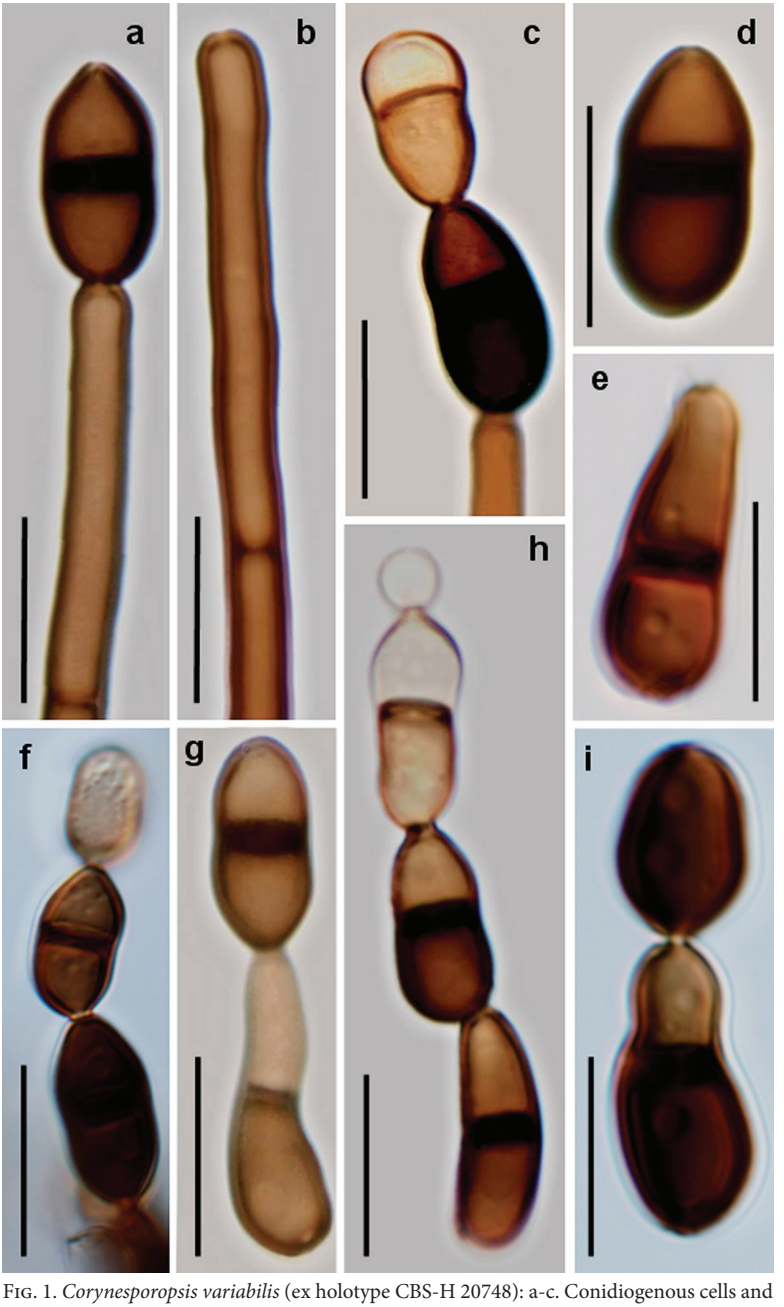


Fig. 1. *Corynesporopsis variabilis* (ex holotype CBS-H 20748): a-c. Conidiogenous cells and conidia. d-i. Conidia. Scale bar = 10 µm.

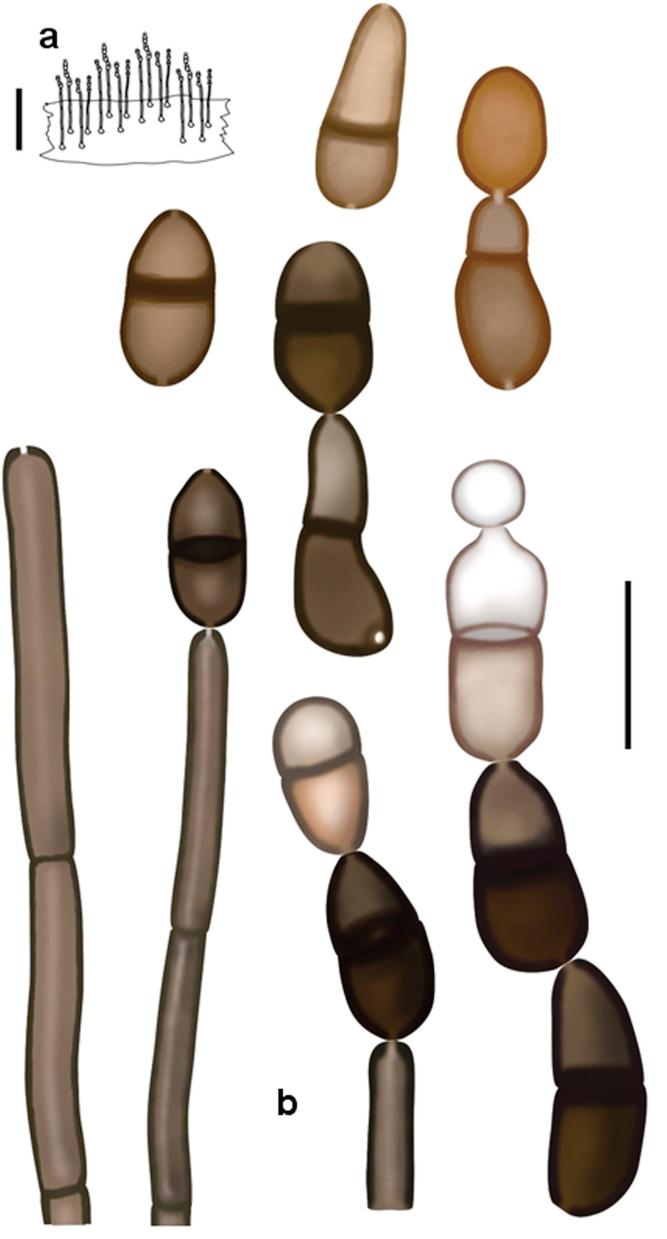


Fig. 2. *Corynesporopsis variabilis* (ex holotype CBS-H 20748): a. Colonies on the natural substratum. b. Conidiogenous cells and conidia. Scale bars: a = 100 µm; b = 10 µm.

(Matsushima 1993). Three other species with 1-septate conidia — *C. isabelicae* (Holubová-Jechová 1987), *C. liquidambaris* (Ma et al. 2012), *C. uniseptata* (Kirk 1981b) — obviously differ from *C. variabilis* in conidial shape and pigmentation.

**Key to *Corynesporopsis* species**

1 Conidia 1-septate, rarely 2-septate . . . . . *C. cylindrica*
[cylindrical, medium brown, guttulate, 12.5–20.5 × 6–7.5 µm]

Conidia strictly 1-septate . . . . . 2

Conidia with more than 1 septum . . . . . 5

2 Conidia elongate fusiform or navicular . . . . . *C. isabelicae*
[brown, with a thick dark brown septum, (24–)27–43.5 × 4–6.4 µm]

Conidia navicular to ellipsoid . . . . . *C. liquidambaris*
[brown to dark brown, with a thick dark brown septum,10–16.5 × 3.5–5.5 µm]

Conidia not elongate fusiform or navicular to ellipsoid . . . . . 3

3 Conidia ellipsoid to broadly obovoid (sometimes somewhat biconic), not constricted at the septum . . . . . *C. indica*
[dark brown to very dark brown with a dark septal band, (14–)17–24(–27) × 8–12(–14) µm]

Conidia broadly ellipsoid, manifestly constricted at the septum . . . . *C. uniseptata*
[brown, often darker at the septum, 12–16 × 5–7 µm]

Conidia inequilateral or variable . . . . . 4

4 Conidia 17–25 × 4–5.5 µm . . . . . *C. inaequiseptata*
[inequilateral, narrowly obclavate; basal cell dark brown, apical cell pale brown]

Conidia 11–16 × 5–8 µm . . . . . *C. variabilis*
[variable (ellipsoid, obclavate, sub-oblong, cylindrical, sub-pyriform to oval), irregularly pigmented, often constricted and darker at the septum]

5 Conidia usually with 2 septa . . . . . 6

Conidia usually with more than 2 septa . . . . . 7

6 Conidia (12–)14–18 × 6–8(–9) µm . . . . . *C. quercicola*
[broadly ellipsoid to cylindrical, end cells pale brown, middle cell dark brown]

Conidia 18–33 × 7–9 µm . . . . . *C. biseptata*
[cylindrical, straight or slightly curved, pale to mid-brown, central cell usually slightly longer than end cells]

7 Conidia 3–4(–5)-septate, 24–36 × 8–11 µm . . . . . *C. rionensis*
[fusiform, broadly fusiform or ellipsoidal, truncate at the ends, brown or dark brown, apical cell pale brown, septa dark and thick]

Conidia (3–)5(–6)-septate, 21–33 × 5–8 µm . . . . . *C. antillana*
[ellipsoidal, constricted at the septa, slightly truncate or rounded at the ends, 3–4 central cells dark brown, pale brown or colorless at the ends, septa black]

Conidia (2–)3–7-septate, 15–48(–59) × 3–4 µm . . . . . *C. iberica*
[cylindrical, sometimes slightly curved, rounded at the ends, dark brown, septa thick]

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